



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,871	09/03/2004	Claudia Wood	257557US0PCT	4676
22850	7590	01/06/2009		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER SILVERMAN, ERIC E				
ART UNIT		PAPER NUMBER		
1618				
NOTIFICATION DATE		DELIVERY MODE		
01/06/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

### Office Action Summary

**Application No.**

10/506,871

**Applicant(s)**

WOOD ET AL.

**Examiner**

ERIC E. SILVERMAN

**Art Unit**

1618

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15, 17, 18 and 22-32 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 11-15, 17, 18 and 22-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Applicants' response, filed 11/17/2008 has been received. Claims 1-15, 17, 18, 22-32 are pending, claims 5 and 10 remain withdrawn as reading on species monomers to which the search was not expanded, and claims 1-4, 6-9, 11-15, 17, 18, 22-32 are treated on the merits in this action.

### ***Response to Arguments***

Applicant's arguments, with respect to rejections over JP 2001-181354 have been fully considered and are persuasive. The rejection under 35 USC 102(b) of claims 1-4, 6-9, 11-17, 22-29 and 32 has been withdrawn.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-9, 11-15, 17, 18, 22-29, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,380,600 to Hosda for reasons of record and those discussed below.

### ***Response to Arguments***

Applicants' arguments have been fully considered, but are not persuasive. Applicants' argue that Hosda's copolymers are made with greater than 20% water, whereas those of the instant composition are made with no more than 20% water. Applicants appear to be aware that in a product by process claim, the process steps are

only afforded weight to the extent that they impart a patentable distinction on the product. Applicants point to Table 46 in the specification, specifically the comparison between Example 1 and Comparison 1 in an attempt to show such a distinction. The aforementioned table gives information about combing force decrease and solution clarity of solutions made from the copolymer of Example 1, which is within the scope of the invention and uses water in 7% by weight, and of Comparative example 1, which uses copolymers made from identical monomers but wherein the feed uses 50% by weight of water.

At the outset, Applicants' analysis of Hosda does not appear to be correct. At col. 5-6, Hosda teaches that the amount of polymer (b) (corresponding to formula I in instant claims) should be at no less than 3 and no more than 150 parts per 100 parts water by weight (preferably no more than 100 parts by weight), and that monomer (a) (corresponding to (a1) or (a2) in the claims) should be no less than 10 and no more than 150 (preferably no more than 125 or 100) parts per 100 parts water by weight. The initiator is included from 0.005% to 10% by weight of the monomer (a). Furthermore, at col. 7, Hosda teaches that an inorganic salt is optionally, but preferably added in order to increase stability and flowability of the resulting polymer. The minimum amount of inorganic salt may be zero (if none is added), and the maximum amount may be the solubility limit of the salt. Hosda provides a list of nine typical inorganic salts that may be used; sodium chloride will be discussed herein as it is often considered the 'archtypical' inorganic salt. Sodium chloride is known to have a solubility in water of 36 g/mL, or 36 parts salt per 100 parts water by weight (water having a density of 1 g/mL,

see sodium chloride MSDS cited on PTO 892 as evidence of that compound's solubility). Also, organic solvent is optionally but preferably added in amounts of 1% to 50% by weight of water. Col 7 at 32-45. Thus, it is possible to calculate the permissible ranges of water in Hosda's reaction mixture. The maximum amount of water would involve using the smallest permissible amounts of each ingredient per 100 parts water (all parts are by weight, as in Hosda), as follows:

3 parts (b) + 10 parts (a) + 0.00005 parts initiator (0.005% based on (a)) + 100 parts water + 0 parts sodium chloride + 0 parts organic solvent = approximately 113 parts total (trivial amount of initiator excluded).

Maximum % by weight water = 100 parts water / 113 parts total = about 88% maximum water.

The minimum amount of water may be similarly calculated, using the maximum allowable amounts of each ingredient per 100 parts water, as follows:

150 parts (b) + 150 parts (a) + 15 parts initiator (10% based on (a)) + 100 parts water + 36 parts sodium chloride + 50 parts organic solvent (50% based on water weight) = 501 parts total.

Minimum % by weight water = 100 parts water / 501 = just less than 20%

Hosda therefore implicitly teaches use of water in amounts from just less than 20%-88%. It is acknowledged that this is a very slight overlap with instant claims. However, it bears noting that if a salt with a higher aqueous solubility than sodium chloride is used in its maximum amount, the weight percent of water will further decrease. Also, according to Hosda organic solvents may be added in even greater

amounts, limited only by the amount in which the organic solvent added dissolves in water. Col. 7 at 40-42. Additional organic solvent would also further decrease the weight percent of water. It is therefore clearly not proper to conclude, as Applicants do, that Hosda teaches away from the use of less than 20% water by weight.

Notwithstanding the above discussion, Hosda does not show any preference for using less water, nor does Hosda indicate that less water would bring about any significant change in the product's structure or properties. Applicants' showing might support unobviousness if the showing indicated that a different and unexpected result was obtained from the use of less than 20% water in the feed. Such a showing would have to reasonably support the notion that when less than 20% of water is used in the polymer feed, the properties or physical structure of polymer are different than when more than 20% of water is used.

The showing discussed in Applicants' response fails to do this for two reasons. First, the solids content of Example 1 and Comparison 1 is 60.2% and 49.8%, respectively. Being that the copolymer is the 'active agent' in effecting combing force decrease, no conclusions can be drawn about the effectiveness of the copolymer when, in the comparative example, the copolymer is used in a significantly lower concentration than in the inventive example. Any differences in properties are just as likely to be attributable to differences in concentration as to differences in copolymer properties. Second, the claims encompass copolymers made with less than 20% water in the feed, whereas the comparison shows differences between copolymers made with 7% and 50% water in the feed, respectively. Even if the differences in properties are not due to

copolymer concentration, for a showing of this sort to be persuasive, it would have to demonstrate that these results are typical for water amounts less than and greater than 20%. A showing of different properties at 7% and 50% water is not fully representative of less than 20% and greater than 20% water.

The showing discussed in Applicants' arguments does not show a nexus between the amount of water used in the polymer feed and any functional or structural differences in the resulting copolymer. The showing is therefore unpersuasive, and this rejection is maintained.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC E. SILVERMAN whose telephone number is (571)272-5549. The examiner can normally be reached on Monday to Thursday 7:00 am to 5:00 pm and Friday 7:00 am to noon.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hartley can be reached on 571 272 0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eric E Silverman/  
Examiner, Art Unit 1618